

wherein

C'
R¹ is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, trifluoromethyl, C₃-C₈-cycloalkyl, C₁-C₆-hydroxyalkyl, hydroxy, C₁-C₆-alkoxy, C₃-C₈-cycloalkyloxy, benzyloxy, C₁-C₇-alkanoyloxy, C₁-C₆-alkylthio, C₂-C₇-alkoxycarbonyl, aminocarbonyl, C₂-C₇-alkylaminocarbonyl, C₃-C₁₃-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR⁴R⁵, wherein

R⁴ and R⁵ are selected independently of each other from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, benzyl and phenyl;

R² is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

R³ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C₁-C₆-alkylene, a substituted C₁-C₆-alkylene which may be substituted one to three-fold by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, or phenyl,

C₂-C₆-alkylene, in which a methylene unit is isosterically replaced by O, S, NR⁶, CO, SO or SO₂, wherein, with the

exception of CO, the isosteric substitution is not adjacent to the amide group and R⁶ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₁-C₆-acyl, and C₁-C₆-alkanesulfonyl,

1,2-cyclopropylene,

C₂-C₆-alkenylene,

a substituted C₂-C₆-alkenylene which is substituted once or twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano or phenyl,

C₄-C₆-alkadienylene,

a substituted C₄-C₆-alkadienylene which is substituted once or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene, which is substituted by C₁-C₃-alkyl, fluorine, cyano or phenyl, and

ethynylene,

D is selected from the group consisting of

C₃-C₁₂-alkylene,

a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkenylene,

a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkadienylene,

a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkynylene,

a substituted C₃-C₁₂-alkynylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkeninylene,

a substituted C₅-C₁₂-alkeninylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and

C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, one to three methylene units in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein R⁷ has the same as R⁶, but is selected independently thereof;

G is selected from the group consisting of G¹, G², G³, G⁴, G⁵, and G⁶ wherein G must contain at least one aromatic ring, wherein

C1
 G^1 is $-(CR^9R^{10})_m-R^8$

and

m is 0 or 1,

R^8 is selected from the group consisting of benzyl, diphenylmethyl, phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic or a hydrogenated ring and either directly or over a methylene group;

R^9 is selected from the group consisting of hydrogen, C_1 - C_6 -alkyl, C_3 - C_6 -alkenyl, C_2 - C_6 -alkynyl, benzyl, phenyl,

anellated bi- and tricyclic aromatic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic ring and either directly or over a methylene group;

R^{10} is the same as R^9 , but is selected independently thereof, or is hydroxy;

G^2 is $=CR^8R^9$

which is bound to D by means of a double bond, wherein R^8 and R^9 have the above meaning;

G^3 is $-X-(CH_2)_n-(CR^9R^{10})_m-R^8$ or $-NR^8R^9$

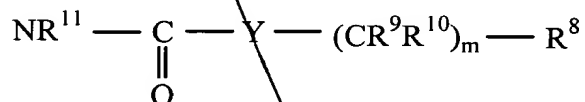
wherein m and the substituents R⁸, R⁹, and R¹⁰ have the above meanings, and

n is 0, 1 or 2

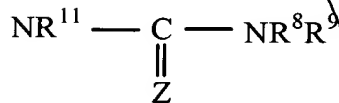
X is NR¹¹, O or S wherein

R¹¹ has the same meanings as R⁴, but is selected independently thereof,

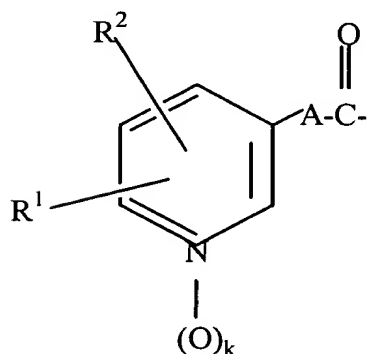
G⁴ is selected from the group consisting of



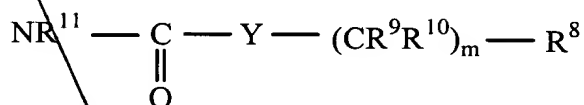
and



wherein structural element D-G cannot contain a total of more than 1 amide grouping, wherein m and the substituents R⁸, R⁹, R¹⁰, R¹¹ and the grouping NR⁸R⁹ can have the above meaning, wherein the residues



and



are not identical, and

Y is selected from the grouping consisting of methylene, ethylene, ethenylene, or represents a bond, and

Z is O or S;

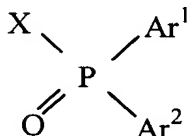
G⁵ is -NR¹¹-SO₂-R¹²

wherein R¹¹ has the above meaning, and

R¹² is selected from the group consisting of C₁-C₆-alkyl and phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least an aromatic ring, wherein the linkage can occur either over an aromatic ring,

G⁶ is



wherein X has the above meanings and

Ar¹ and Ar² are selected independently of each other from the group consisting of phenyl, pyridyl and naphthyl; and wherein aromatic ring systems in the substituents R¹, R², R³, R⁴, R⁵, R⁸, R⁹, R¹⁰, R¹¹, R¹², Ar¹ and Ar² and in ring systems =CR⁸R⁹ and -NR⁸R⁹ may be substituted independently from each other by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-

C1
cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C₁-C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;

the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other isomers, the tautomers and their acid addition salts including their hydrates and solvates.

33. (Once amended) The compounds according to claim 32 wherein

R¹ is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, ethinyl, hydroxy, C₁-C₄-alkoxy, benzyloxy, C₁-C₄-alkylthio, C₂-C₅-alkoxycarbonyl, aminocarbonyl, C₃-C₆-dialkylaminocarbonyl, carboxy, phenoxy, phenylthio, and pyridyloxy;

R² is selected from the group consisting of hydrogen, fluorine, chlorine, bromine, C₁-C₄-alkyl, trifluoromethyl, hydroxy, C₁-C₄-alkoxy;

ex
 R^3 is selected from the group consisting of hydrogen, C_1 - C_3 -alkyl, allyl, hydroxy, C_1 - C_3 -alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C_1 - C_6 -alkylene,

a substituted C_1 - C_6 -alkylene which may be substituted once or twice by C_1 - C_3 -alkyl, hydroxy, fluorine, or phenyl,

C_2 - C_6 -alkylene, wherein a methylene unit is isosterically replaced by O, S, NH, $N(CH_3)$ or CO, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group,

1,2-cyclopropylene,

C_2 - C_6 -alkenylene,

a substituted C_2 - C_6 -alkenylene which is substituted once or twice by C_1 - C_3 -alkyl, phenyl, hydroxy or fluorine,

C_4 - C_6 -alkadienylene,

a substituted C_4 - C_6 -alkadienylene which is substituted once or twice by methyl, or fluorine,

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene, which is substituted by methyl or fluorine, and

ethynylene,

C'
D is selected from the group consisting of

C_3-C_{12} -alkylene,

a substituted C_3-C_{12} -alkylene which is substituted once or twice by C_1-C_3 -alkyl, hydroxy or phenyl,

C_3-C_{12} -alkenylene,

a substituted C_3-C_{12} -alkenylene which is substituted once or twice by C_1-C_3 -alkyl, hydroxy or phenyl,

C_3-C_{12} -alkynylene,

a substituted C_3-C_{12} -alkynylene which is substituted once or twice by C_1-C_3 -alkyl, hydroxy or phenyl, and

C_3-C_{12} -alkylene, C_3-C_{12} -alkenylene or C_3-C_{12} -alkynylene, wherein, one to three methylene units in the C_3-C_{12} -alkylene, C_3-C_{12} -alkenylene or C_3-C_{12} -alkynylene are isosterically replaced by O, S, NH, $N(CH_3)$, $N(COCH_3)$, $N(SO_2CH_3)$, CO or SO_2 ;

G is selected from the group consisting of G^1 , G^2 , G^3 , G^4 , G^5 , and G^6 wherein G must contain at least one aromatic ring, wherein

G^1 is $-(CR^9R^{10})_m-R^8$

and

m is 0 or 1,

C' ~~R⁸ is selected from the group consisting of benzyl, diphenylmethyl, phenyl, benzocyclobutyl, indanyl, indenyl, oxoindanyl, naphthyl, dihydronaphthyl, tetrahydronaphthyl, biphenylenyl, fluorenyl, oxofluorenyl, anthryl, dihydroanthryl, oxodihydroanthryl, dioxodihydroanthryl, phenanthryl, dibenzocycloheptenyl, dihydrodibenzocycloheptenyl, oxodihydrodibenzocyclooctenyl, tetrahydrodibenzocyclooctenyl,~~

~~benzofuryl, dihydrobenzofuryl, benzothienyl, dihydrobenzothienyl, indolyl, indolinyl, isoindolinyl, oxoindolinyl, dioxoindolinyl, benzooxazolyl, oxobenzooxazolyl, benzoisoxazolyl, oxobenzoisoxazolyl, benzothiazolyl, oxobenzothiazolyl, benzoisothiazolyl, oxobenzoisothiazolyl, benzoimidazolyl, oxobenzoimidazolyl, indazolyl, oxoindazolyl, benzofurazanyl, benzothiadiazolyl, benzotriazolyl, benzopyranyl, quinolyl, isoquinolyl, dihydroquinolyl, oxodihydroquinolyl, tetrahydroquinolyl, oxotetrahydroquinolyl, benzodioxanyl, quinoxalyl, quinazolyl, naphthyridinyl, carbazoleyl, tetrahydrocarbazolyl, pyridoindolyl, 1,1-dioxo-1-thia-2-aza-acenaphthenyl, acridinyl, oxodihydroacridinyl, phenanthridinyl, oxodihydrophenanthridinyl, dihydrobenzoisochinolyl, oxodihydrobenzosoquinolyl, phenothiazinyl, dihydrodibenzooxepinyl, oxodihydrodibenzooxepinyl, benzocycloheptathienyl, oxobenzocycloheptathienyl, dihydrothienobenzothiepinyl, oxodihydrothienobenzothiepinyl, dihydrodibenzothiepinyl, oxodihydrodibenzothiepinyl, octahydrodibenzothiepinyl, dibenzoazepinyl, dihydrodibenzoazepinyl, oxodihydrodibenzoazepinyl, octahydrodibenzoazepinyl,~~

benzocycloheptapyridyl, oxobenzocycloheptapyridyl,
pyridobenzoazepinyl, dihydropyridobenzoazepinyl,
oxodihydropyridobenzoazepinyl,
dihydropyridobenzodiazepinyl,
oxodihydropyridobenzodiazepinyl, dihydrodibenzooxazepinyl,
dihydropyridobenzooxepinyl, dihydropyridobenzooxazepinyl,
oxodihydropyridobenzooxazepinyl,
dihydrodibenzothiazepinyl, oxodihydrodibenzothiazepinyl,
dihydropyridobenzothiazepinyl,
oxodihydropyridobenzothiazepinyl, bound directly or over a
methylene group;

R⁹ is selected from the group consisting of hydrogen, C₁-
C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, C₃-C₈-cycloalkyl,
benzyl, phenyl;

indanyl, indenyl, oxoindanyl, naphthyl, dihydronaphthyl,
tetrahydronaphthyl, biphenylenyl, anthryl, dihydroanthryl,
oxodihydroanthryl, phenanthryl, dibenzocycloheptenyl,
dihydrodibenzocycloheptenyl,
oxodihydrodibenzocycloheptenyl,

benzofuryl, benzothienyl, indolyl, indolinyl,
isoindolinyl, oxoindolinyl, dioxoindolinyl, benzooxazolyl,
oxobenzooxazolyl, benzoisoxazolyl, oxobenzoisoxazolyl,
benzothiazolyl, oxobenzothiazolyl, benzoisothiazolyl,
oxobenzoisothiazolyl, benzoimidazolyl,
oxobenzoimidazolyl, indazolyl, oxoindazolyl,
benzothiadiazolyl, benzotriazolyl, quinolinyl,
isoquinolinyl, oxodihydroquinolinyl, tetrahydroquinolinyl,
oxotetrahydroquinolinyl, carbazolyl, pyridoindolyl,
dihydrobenzoisoquinolinyl, phenothiazinyl;

R^{10} is the same as R^9 , but is selected independently thereof, or is hydroxy;

G^2 is $=CR^8R^9$

C¹
which is bound to D over a double bond, wherein R^8 and R^9 have the above meaning or whereby the grouping $=CR^8R^9$ can also be a ring system bound over the carbon atom, selected from indanyl, indenyl, tetrahydronaphthyl, fluoroenyl, dihydroanthryl, dibenzocycloheptenyl, dihydrodibenzocycloheptenyl; indolinyl, isoindolinyl, oxoindolinyl, tetrahydroquinolinyl, tetrahydroisoquinolinyl, dihydroacridinyl, dihydrodibenzooxepinyl, dihydrothienobenzothiepinyl, dihydrodibenzothiepinyl, dibenzoazepinyl, dihydrodibenzoazepinyl, benzocycloheptapyridinyl, dihydrobenzocycloheptapyridinyl, pyridobenzoazepinyl, dihydropyridobenzoazepinyl, oxodihydropyridobenzoazepinyl, dihydropyridobenzothiepinyl;

G^3 is $-X-(CH_2)_n-(CR^9R^{10})_m-R^8$ or $-NR^8R^9$

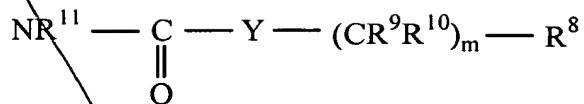
wherein m and the substituents R^8 , R^9 , and R^{10} have the above meanings, and

n is 0, 1 or 2,

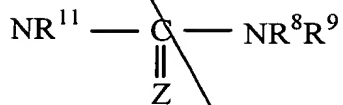
X is NR^{11} , O or S wherein

R^{11} is selected from the group consisting of hydrogen, C_1 - C_3 -alkyl, allyl, propinyl, benzyl and phenyl,

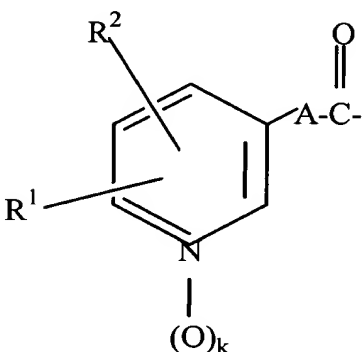
G^4 is selected from the group consisting of



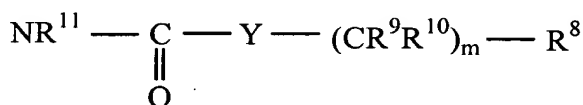
and



wherein structural element D-G does not contain a total of more than 1 amide group wherein m and the substituents R^8 , R^9 , R^{10} , R^{11} and the group NR^8R^9 can have the above meanings wherein the residues



and



are not identical,

Y is selected from the grouping consisting of methylene, ethylene, ethenylene, and a bond, and

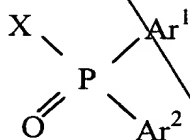
Z is O or S;

G^5 is $-\text{NR}^{11}-\text{SO}_2-\text{R}^{12}$

wherein R^{11} has the above meaning, and

R^{12} is selected from the group consisting of, phenyl, indenyl, naphthyl, anthryl, indolyl, benzothienyl and quinolinyl;

G^6 is



wherein X has the above meanings and

Ar^1 and Ar^2 are selected independently of each other from the group consisting of phenyl, and naphthyl;

and wherein aromatic ring systems in the substituents R^1 , R^3 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , Ar^1 and Ar^2 and in ring systems $=\text{CR}^8\text{R}^9$ and $-\text{NR}^8\text{R}^9$ may be substituted independently from each other by one to three of the same or different groups selected from the group consisting of halogen, cyano, C_1 - C_6 -alkyl, trifluoromethyl, C_3 - C_8 -cycloalkyl, benzyl, phenyl, hydroxy, C_1 - C_6 -hydroxyalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C_1 - C_6 -alkylthio, phenylthio, sulfo, carboxy, C_2 - C_7 -carboxyalkyl, C_3 - C_7 -carboxyalkenyl, C_2 - C_7 -alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C_1 - C_6 -aminoalkyl, mono- C_1 - C_6 -alkylamino, di- $(\text{C}_1$ - C_6 -alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy,

wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C_2 - C_7 -

alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino.

34. The compounds according to claim 33 wherein

C'
R¹ is selected from the group consisting of hydrogen, fluorine, chlorine, bromine, methyl, ethyl, trifluoromethyl, hydroxy, C₁-C₄-alkoxy, phenoxy, methylthio, ethylthio, methoxycarbonyl, aminocarbonyl and carboxy;

R² is selected from the group consisting of hydrogen, chlorine, methyl, hydroxy, and methoxy;

R³ is hydrogen;

k is 0;

A is selected from the group consisting of C₂-C₆-alkylene,

a substituted C₂-C₆-alkylene which is substituted once or twice by hydroxy or fluorine,

C₂-C₆-alkylene, wherein a methylene unit is isosterically replaced by O, S, or CO, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group,

C₂-C₆-alkenylene,

a substituted C₂-C₆-alkenylene which is substituted by methyl or fluorine,

C₄-C₆-alkadienylene,

a substituted C₄-C₆-alkadienylene which is substituted by methyl,

ethinylene,

D is selected from the group consisting of

C₃-C₁₀-alkylene,

a substituted C₃-C₁₀-alkylene which is substituted by methyl, hydroxy or phenyl,

C₃-C₁₀-alkenylene,

a substituted C₃-C₁₀-alkenylene which is substituted by methyl, hydroxy or phenyl,

C₃-C₁₀-alkinylene,

a substituted C₃-C₁₀-alkinylene which is substituted by hydroxy or phenyl,

C₃-C₁₀-alkylene, C₃-C₁₀-alkenylene or C₃-C₁₀-alkinylene, wherein a methylene unit is isosterically replaced by O, NH, N(CH₃), or CO, or an ethylene group is isosterically replaced by a group NH-CO or CO-NH, or a propylene group is isosterically replaced by a group NH-CO-NH or NH-CO-O or O-CO-NH;

C
G is selected from the group consisting of G¹, G², G³, G⁴, G⁵, and G⁶ wherein G must contain at least one aromatic ring, wherein

G¹ is $-(CR^9R^{10})_m-R^8$

and

m is 0 or 1,

R⁸ is selected from the group consisting of benzyl, diphenylmethyl, phenyl, indanyl, indenyl, oxoindanyl, naphthyl, tetrahydronaphthyl, fluorenyl, oxofluorenyl, anthryl, dihydroanthryl, oxodihydroanthryl, phenanthryl, dibenzocycloheptenyl, dihydrodibenzocycloheptenyl, oxodihydrodibenzocyclooctenyl, benzofuryl, benzothieryl, indolyl, indolinyl, isoindolinyl, oxoindolinyl, benzooxazolyl, oxobenzooxazolyl, benzoisoxazolyl, oxobenzoisoxazolyl, benzothiazolyl, oxobenzothiazolyl, benzoisothiazolyl, oxobenzoisothiazolyl, benzoimidazolyl, oxobenzoimidazolyl, benzothiadiazolyl, benzotriazolyl, quinolyl, isoquinolyl, oxodihydroquinolyl, tetrahydroquinolyl, oxotetrahydroquinolyl, quinoxalyl, quinazolyl, naphthyridyl, carbazoleyl, pyridoindolyl, 1,1-dioxo-1-thia-2-aza-acenaphthenyl, acridyl, oxodihydroacridyl, phenanthridyl, dihydrobenzoisochinolyl, oxodihydrobenzosoquinolyl, dihydrodibenzooxepinyl, dibenzoazepinyl, dihydrodibenzazepinyl, oxodihydrodibenzazepinyl, benzocycloheptapyridyl, pyridobenzoazepinyl, dihydropyridobenzoazepinyl, oxodihydropyridobenzoazepinyl,

C1
dihydropyridobenzodiazepinyl,
oxodihydropyridobenzodiazepinyl or
dihydrodibenzooxazepinyl;

R⁹ is selected from the group consisting of hydrogen and
C₁-C₃-alkyl, C₃-C₈-cycloalkyl, benzyl, phenyl, indanyl,
indenyl, naphthyl anthryl;

benzofuryl, benzothienyl, indolyl, benzooxazolyl,
oxobenzooxazolyl, benzoisoxazolyl, benzothiazolyl,
benzoisothiazolyl, benzoimidazolyl and benzotriazolyl;

R¹⁰ is the same as R⁹, but is selected independently
thereof, or is hydroxy;

G² is =CR⁸R⁹

which is bound to D over a double bond, wherein R⁸ and R⁹
have the above meaning or whereby the grouping =CR⁸R⁹ can
also be a ring system bound over the carbon atom, selected
from indanyl, indenyl, tetrahydronaphthyl, fluoroenyl,
dihydroanthryl, dibenzocycloheptenyl,
dihydrodibenzocycloheptenyl; indolinyl, isoindolinyl,
oxoindolinyl, tetrahydroquinolinyl,
tetrahydroisoquinolinyl, dihydroacridinyl,
dihydrodibenzooxepinyl, dihydrothienobenzothiepinyl,
dihydrodibenzothiepinyl, dibenzoazepinyl,
dihydrodibenzoazepinyl, benzocycloheptapyridinyl,
dihydrobenzocycloheptapyridinyl, pyridobenzoazepinyl,
dihydropyridobenzoazepinyl, oxodihydropyridobenzooxepinyl,
dihydropyridobenzothiepinyl;

G³ is -X-(CH₂)_n-(CR⁹R¹⁰)_m-R⁸ or -NR⁸R⁹

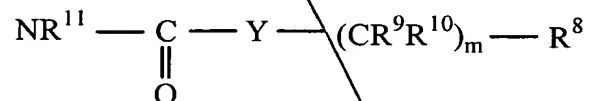
wherein m and the substituents R⁸, R⁹, and R¹⁰ have the above meanings, and

n is 0 or 1,

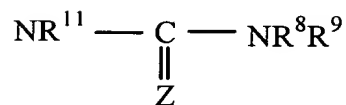
X is NR¹¹, O or S wherein

R¹¹ is selected from the group consisting of hydrogen, C₁-C₃-alkyl, benzyl and phenyl,

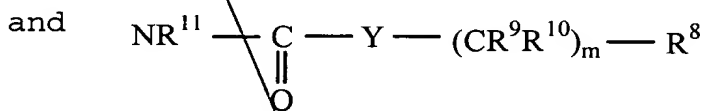
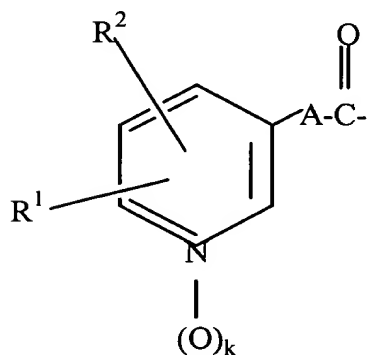
G⁴ is selected from the group consisting of



and



wherein structural element D-G does not contain a total of more than 1 amide grouping wherein m and the substituents R⁸, R⁹, R¹⁰, R¹¹ and the group NR⁸R⁹ can have the above meanings wherein the residues



are not identical,

Y is selected from the grouping consisting of methylene, ethenylene, and a bond, and

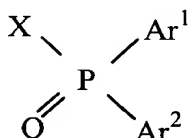
Z is O or S;

G⁵ is -NR¹¹-SO₂-R¹²

wherein R¹¹ has the above meaning, and

R¹² is selected from the group consisting of, phenyl, naphthyl, anthryl, benzothienyl and quinolinyl;

G⁶ is



wherein X has the above meanings and

Ar¹ and Ar² are selected independently of each other from the group consisting of phenyl, and naphthyl;

and wherein aromatic ring systems in the substituted R¹, R³, R⁸, R⁹, R¹⁰, R¹¹, R¹², Ar¹ and Ar² and in ring systems =CR⁸R⁹ and -NR⁸R⁹ may be substituted independently from each other by one to three of the same or different groups selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C₁-

C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

C₁
wherein alkyl residues in the Group G can be substituted by one or two of the same or different residues selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino.

35. The compounds according to claim 34 wherein

R¹ is selected from the group consisting of hydrogen, fluorine, methyl, trifluoromethyl and ethylthio;

R² is hydrogen;

R³ is hydrogen;

k is 0;

A is selected from the group consisting of ethylene and butylene,

a substituted ethylene or butylene which is substituted by hydroxy or one or two fluorine atoms, or OCH₂, SCH₂,

ethenylene or 1,3-butadienylene;

D is selected from the group consisting of

C₃-C₈-alkylene,

C' a substituted C₃-C₈-alkylene which is substituted by hydroxy or phenyl,

C₃-C₈-alkenylene,

a substituted C₃-C₈-alkenylene which is substituted by phenyl,

C₃-C₈-alkynylene; and

C₃-C₈-alkylene, C₃-C₈-alkenylene or C₃-C₈-alkynylene, in which one or two methylene units in the C₃-C₈-alkylene, C₃-C₈-alkenylene or C₃-C₈-alkynylene are isosterically replaced by O, NH or CO;

G is selected from the group consisting of

cyclopentylphenylmethylene, cyclohexylphenylmethyl, cyclohexylhydroxyphenylmethyl, diphenylmethyl, diphenylhydroxymethyl, diphenylmethylene, diphenylethyl, diphenylhydroxy ethyl, diphenylethylene, triphenylmethyl, triphenylethyl, triphenylhydroxyethyl, triphenylethylene, naphthylmethylene, naphthyl, tetrahydronaphthyl, hydroxytetrahydronaphthyl, tetrahydronaphthylidene, fluoroenyl, hydroxyfluoroenyl, fluoroenylidene, tetrahydrobenzocycloheptenylidene, dihydrodibenzocycloheptenyl, hydroxydihydrodibenzocycloheptenyl, dihydrodibenzocycloheptenylidene,

phenyl-thienylmethyl, phenyl-thienylhydroxymethyl, phenyl-thienylmethylene, phenyl-furylmethyl, phenyl-furylhydroxymethyl, phenyl-furylmethylene, phenyl-

pyridylmethyl, phenyl-pyridylhydroxymethyl, phenyl-pyridylmethylenes,

tetrahydroquinolinyl, tetrahydroisoquinolinyl, benzocycloheptapyridinyl, benzocycloheptapyridinylidene, dihydrobenzocycloheptapyridinyl, dihydrobenzocycloheptapyridinylidene, dihydrodibenzooxepinyl, dihydrodibenzooxepinylidene, dihydrodibenzothiepinyl, dihydrodibenzothiepinylidene,

phenylpyrrolyl, diphenylpyrrolyl, phenylthienyl, diphenylthienyl, phenylpyrazolyl, phenylimidazolyl, diphenylimidazolyl, phenylpyridyl, diphenylpyridyl, indolyl, oxoindolinyl, benzoimidazolyl, oxobenzoimidazolyl, benzothiazolyl, oxobenzothiazolyl, benzoisothiazolyl, benzooxazolyl, oxobenzooxazolyl, benzotriazolyl,

diphenylmethylamino, diphenylmethyl-methylamino, dibenzylamino, benzylphenylamino, cyclohexylphenylamino, triphenylmethylamino, biphenylamino, diphenylamino, N-indolinyl, N-isoindolinyl, N-tetrahydroquinolinyl, N-tetrahydrobenzazepinyl, N-phenyltetrahydrobenzoazepinyl, N-1,1-dioxo-1-thia-2-azaacenaphthenyl, N-1H,3H-benzo[d,e]-isoquinolinyl, N-dihydrodibenzoazepinyl,

diphenylmethoxy, diphenylmethylthio,

diphenylacetylamino, diphenylacetyl-phenylamino, diphenylpropionylamino, diphenylacryloylamino, naphthylacetylamino, furoylacrylamino, benzoylamino, naphthoylamino, oxofluoroenylcarbonylamino, furoylamino,

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diphenylmethylaminocarbonylamino,
dibenzylaminocarbonylamino,
naphthylmethyaminocarbonylamino,
biphenylaminocarbonylamino, naphthylaminocarbonylamino,
benzylphenylaminocarbonylamino,
diphenylaminocarbonylamino, diphenylaminocarbonyl-
phenylamino, diphenylfurylaminocarbonylamino, indoliny-N-
carbonylamino, isoindoliny-N-carbonylamino, 1H,3H-
benzo[d,e]isoquinoliny-N-carbonylamino,
tetrahydrobenzoazepiny-N-carbonylamino,
phenyltetrahydrobenzoazepiny-N-carbo-nylamino,
dihydrodibenzoazepin-N-carbonylamino,
dihydrobenzopyridoazepiny-N-carbonylamino,

tolylsulfonylamino, naphthylsulfonylamino,
diphenylphosphinoylamino and diphenylphosphinoyloxy,

and wherein aromatic ring systems in G can be substituted independently from each other by one to three groups independently selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C₁-C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

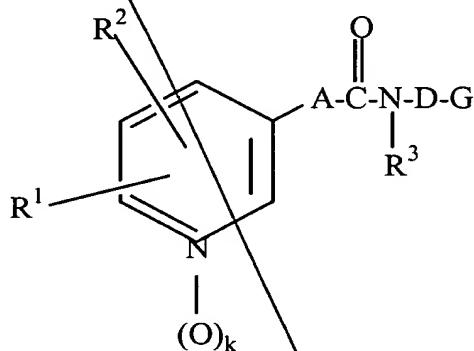
wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-

alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino.

36. The compounds of formula (I) of claim 32, wherein the compounds are selected from the group consisting of

N-[8,8-bis-(4-fluorophenyl)-octyl]-3-pyridin-3-yl-acryl-amindehydrochloride,
N-[6-(3,3-diphenyl-ureido)-hexyl]-3-pyridin-3-yl-acrylamide,
N-[4-(1-phenyl-1,2,4,5-tetrahydrobenzo[d]azepin-3-yl)-butyl]-3-pyridin-3-yl-acrylamide,
N-(8,8-diphenyl-octyl)-3-pyridin-3-yl-acrylamide,
N-(8-hydroxy-8,8-diphenyl-octyl)-3-pyridin-3-yl-acrylamide,
N-[4-(3,3-diphenyl-ureido)-butyl]-3-pyridin-3-yl-acrylamide,
N-[4-(1H,3H-benzo[d,e]isoquinolin-2-yl)-butyl]-3-pyridin-3-yl-acrylamide,
N-[6-(10,11-dihydrodibenzo[b,f]azepin-5-yl-carbonylamino)-hexyl]-3-pyridin-3-yl-acrylamide,
N-[4-(1,1-dioxo-1-thia-2-aza-acenaphthylen-2-yl)-butyl]-3-pyridin-3-yl-acrylamide,
N-(6-hydroxy-6,6-diphenyl-hexyl)-3-pyridin-3-yl-acrylamide,
N-(6,6-diphenyl-hex-5-enyl)-3-pyridin-3-yl-acrylamide,
N-[4-(4,5-diphenyl-imidazol-1-yl)-butyl]-3-pyridin-3-yl-acrylamide,
N-(5-hydroxy-5,5-diphenyl-pentyl)-3-pyridin-3-yl-acrylamide,
N-(7-phenyl-heptyl)-3-pyridin-3-yl-acrylamide,
N-(4-diphenylacetyl-amino-butyl)-3-pyridin-3-yl-acrylamide,
N-[4-(benzhydryl-amino)-butyl]-3-pyridin-3-yl-acrylamide and
N-[4-([2-(benzhydrylmethylamino)-ethyl]-methylamino)-butyl]-3-pyridin-3-yl-acrylamide.

37. A pharmaceutical composition comprising one or more of the compounds according to formula (I) and pharmaceutically acceptable salts of formula (I)



(I)

wherein

R¹ is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, trifluoromethyl, C₃-C₆-cycloalkyl, C₁-C₆-hydroxyalkyl, hydroxy, C₁-C₆-alkoxy, C₃-C₆-cycloalkyloxy, benzyloxy, C₁-C₇-alkanoyloxy, C₁-C₆-alkylthio, C₂-C₇-alkoxycarbonyl, aminocarbonyl, C₂-C₇-alkylaminocarbonyl, C₃-C₁₃-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR⁴R⁵, wherein

R⁴ and R⁵ are selected independently of each other from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, benzyl and phenyl;

R² is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

C1
R³ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C₁-C₆-alkylene,

a substituted C₁-C₆-alkylene which may be substituted one to three-fold by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, or phenyl,

C₂-C₆-alkylene, in which a methylene unit is isosterically replaced by O, S, NR⁶, CO, SO or SO₂, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R⁶ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₁-C₆-acyl, and C₁-C₆-alkanesulfonyl,

1,2-cyclopropylene,

C₂-C₆-alkenylene,

a substituted C₂-C₆-alkenylene which is substituted once or twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano or phenyl,

C₄-C₆-alkadienylene,

a substituted C₄-C₆-alkadienylene which is substituted once or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene, which is substituted by C₁-C₃-alkyl, fluorine, cyano or phenyl, and

ethynylene,

D is selected from the group consisting of

C₃-C₁₂-alkylene,

a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkenylene,

a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkadienylene,

a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkynylene,

a substituted C₃-C₁₂-alkynylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkeninylenylene,

a substituted C₅-C₁₂-alkeninylenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and

Q1
C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, one to three methylene units in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein R⁷ has the same as R⁶, but is selected independently thereof;

G is selected from the group consisting of G¹, G², G³, G⁴, G⁵, and G⁶ wherein G must contain at least one aromatic ring, wherein

G¹ is $-(CR^9R^{10})_m-R^8$

and

m is 0 or 1,

R⁸ is selected from the group consisting of benzyl, diphenylmethyl, phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic or a hydrogenated ring and either directly or over a methylene group;

R⁹ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkynyl, benzyl, phenyl,

anellated bi- and tricyclic aromatic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein

the linkage can occur over an aromatic ring and either directly or over a methylene group;

R^{10} is the same as R^9 , but is selected independently thereof, or is hydroxy;

G^2 is $=CR^8R^9$

which is bound to D by means of a double bond, wherein R^8 and R^9 have the above meaning;

G^3 is $-X-(CH_2)_n-(CR^9R^{10})_m-R^8$ or $-NR^8R^9$

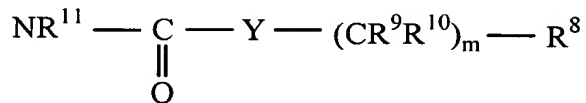
wherein m and the substituents R^8 , R^9 , and R^{10} have the above meanings, and

n is 0, 1 or 2

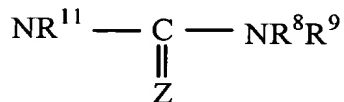
X is NR^{11} , O or S wherein

R^{11} has the same meanings as R^4 , but is selected independently thereof,

G^4 is selected from the group consisting of

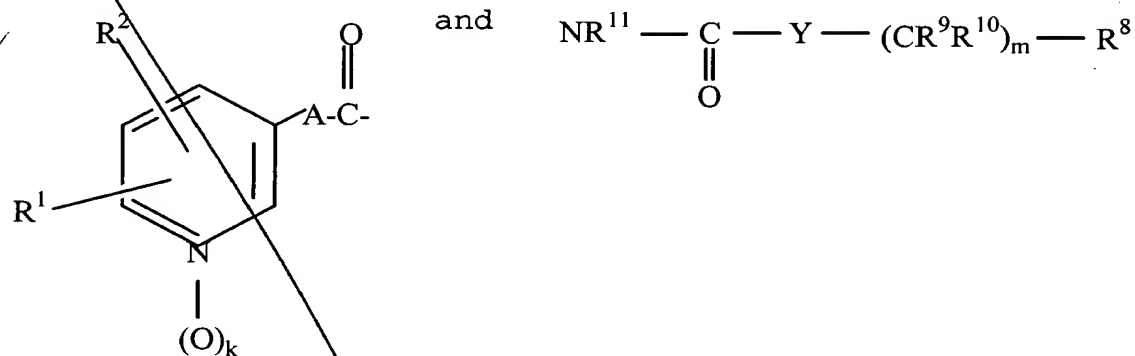


and



wherein structural element D-G cannot contain a total of more than 1 amide grouping, wherein m and the substituents

R^8, R^9, R^{10}, R^{11} and the grouping NR^8R^9 can have the above meaning, wherein the residues



are not identical, and

Y is selected from the grouping consisting of methylene, ethylene, ethenylene, or represents a bond, and

Z is O or S;

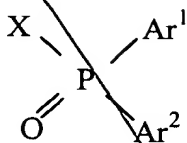
G^5 is $-NR^{11}-SO_2-R^{12}$

wherein R^{11} has the above meaning, and

R^{12} is selected from the group consisting of C_1 - C_6 -alkyl and phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least an aromatic ring, wherein the linkage can occur either over an aromatic ring,

G^6 is



wherein X has the above meanings and

Ar¹ and Ar² are selected independently of each other from the group consisting of phenyl, pyridyl and naphthyl;

and wherein aromatic ring systems in the substituents R¹, R², R³, R⁴, R⁵, R⁸, R⁹, R¹⁰, R¹¹, R¹², Ar¹ and Ar² and in ring systems =CR⁸R⁹ and -NR⁸R⁹ may be substituted independently from each other by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C₁-C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;

the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other

isomers, the tautomers and their acid addition salts including their hydrates and solvates.

38. The pharmaceutical composition of claim 37 wherein the composition is provided in a form selected from the group consisting of solid, peroral administrable form as a tablet, capsule, coated tablet, liquid, gastric fluid-resistant preparation, suspension, effervescent tablet, tabs or sachets, sustained action form, parenteral depot medicinal form, implant, inhalant, concentrate, powder, rectal administrable emulsion, genital administrable emulsion, transurethral administrable emulsion, liposomal administrable emulsion, lyophilisate, spray, transdermal, salve, emulsion, balm, plaster and mixtures thereof.

39. The method of claim 37 wherein a dosage unit for administration includes 0.001 to 5000 mg active ingredient.

40. The method of claim 39 wherein a dosage unit for administration includes 0.001 to 4000 mg active ingredient.

41. The method of claim 40 wherein a dosage unit for administration includes 0.001 to 3000 mg active ingredient.

42. The method of claim 41 wherein a dosage unit for administration includes 0.001 to 2000 mg active ingredient.

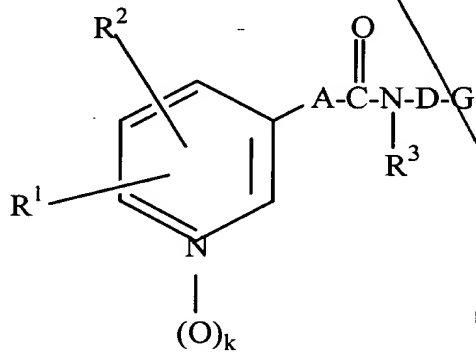
43. The method of claim 42 wherein a dosage unit for administration includes 0.001 to 1000 mg active ingredient.

44. The method of claim 43 wherein a dosage unit for administration includes 0.01 to 100 mg active ingredient.

45. The method of claim 44 wherein a dosage unit for administration includes 1 to 10 mg active ingredient.

46. The method of claim 45 wherein a dosage unit for administration includes 1, 2, 5, 10, 20, 30, 50, 75, 100, 200, 300, 400, 500, 600 or 800 mg active ingredient.

47. A method of inhibiting tumor cell growth in a human or animal body comprising administering to the human or animal body in need thereof an amount of a pharmaceutical composition effective for inhibiting tumor cell growth, wherein the pharmaceutical composition includes compounds of formula (I) or a pharmaceutically acceptable salts of formula (I)



(I)

wherein

R¹ is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, trifluoromethyl, C₃-C₈-cycloalkyl, C₁-C₆-hydroxyalkyl, hydroxy, C₁-C₆-alkoxy, C₃-C₈-cycloalkyloxy, benzyloxy, C₁-C₇-alkanoyloxy, C₁-C₆-alkylthio, C₂-C₇-alkoxycarbonyl, aminocarbonyl, C₂-C₇-alkylaminocarbonyl, C₃-C₁₃-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR⁴R⁵, wherein

C1
~~R⁴ and R⁵ are selected independently of each other from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, benzyl and phenyl;~~

~~R² is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;~~

~~R³ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;~~

~~k is 0 or 1,~~

~~A is selected from the group consisting of C₁-C₆-alkylene,~~

~~a substituted C₁-C₆-alkylene which may be substituted one to three-fold by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, or phenyl,~~

~~C₂-C₆-alkylene, in which a methylene unit is isosterically replaced by O, S, NR⁶, CO, SO or SO₂, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R⁶ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₁-C₆-acyl, and C₁-C₆-alkanesulfonyl,~~

~~1,2-cyclopropylene,~~

~~C₂-C₆-alkenylene,~~

C1
~~a substituted C₂-C₆-alkenylene which is substituted once or twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano or phenyl,~~

~~C₄-C₆-alkadienylene,~~

~~a substituted C₄-C₆-alkadienylene which is substituted once or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,~~

~~1,3,5-hexatrienylene,~~

~~a substituted 1,3,5-hexatrienylene, which is substituted by C₁-C₃-alkyl, fluorine, cyano or phenyl, and~~

~~ethinylene,~~

~~D is selected from the group consisting of~~

~~C₃-C₁₂-alkylene,~~

~~a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

~~C₃-C₁₂-alkenylene,~~

~~a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

~~C₅-C₁₂-alkadienylene,~~

~~a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

Q1
C₃-C₁₂-alkynylene,

a substituted C₃-C₁₂-alkynylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkeninylene,

a substituted C₅-C₁₂-alkeninylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and

C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, one to three methylene units in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein R⁷ has the same as R⁶, but is selected independently thereof;

G is selected from the group consisting of G¹, G², G³, G⁴, G⁵, and G⁶ wherein G must contain at least one aromatic ring, wherein

G¹ is $-(CR^9R^{10})_m-R^8$

and

m is 0 or 1,

R⁸ is selected from the group consisting of benzyl, diphenylmethyl, phenyl,

Q1 anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic or a hydrogenated ring and either directly or over a methylene group;

R⁹ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, benzyl, phenyl,

anellated bi- and tricyclic aromatic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic ring and either directly or over a methylene group;

R¹⁰ is the same as R⁹, but is selected independently thereof, or is hydroxy;

G² is =CR⁸R⁹

which is bound to D by means of a double bond, wherein R⁸ and R⁹ have the above meaning;

G³ is -X-(CH₂)_n-(CR⁹R¹⁰)_m-R⁸ or -NR⁸R⁹

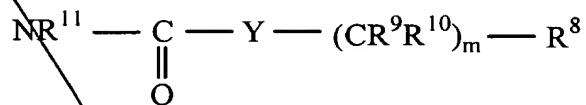
wherein m and the substituents R⁸, R⁹, and R¹⁰ have the above meanings, and

n is 0, 1 or 2

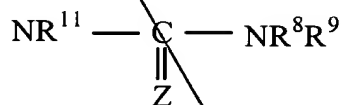
X is NR¹¹, O or S wherein

R¹¹ has the same meanings as R⁴, but is selected independently thereof,

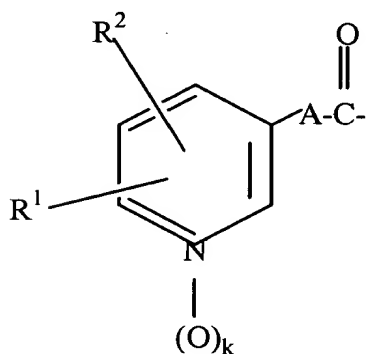
G^4 is selected from the group consisting of



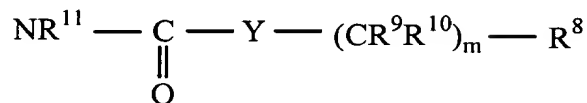
and



wherein structural element D-G cannot contain a total of more than 1 amide grouping, wherein m and the substituents R^8 , R^9 , R^{10} , R^{11} and the grouping NR^8R^9 can have the above meaning, wherein the residues



and



are not identical, and

Y is selected from the grouping consisting of methylene, ethylene, ethenylene, or represents a bond, and

Z is O or S;

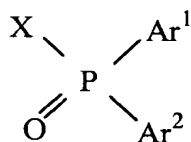
G^5 is $-NR^{11}-SO_2-R^{12}$

wherein R^{11} has the above meaning, and

C1
 R^{12} is selected from the group consisting of C_1 - C_6 -alkyl and phenyl,

annelated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least an aromatic ring, wherein the linkage can occur either over an aromatic ring,

G^6 is



wherein X has the above meanings and

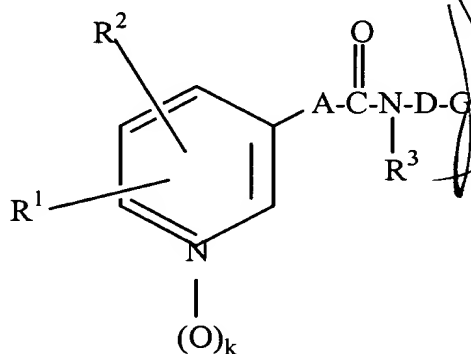
Ar^1 and Ar^2 are selected independently of each other from the group consisting of phenyl, pyridyl and naphthyl;

and wherein aromatic ring systems in the substituents R^1 , R^2 , R^3 , R^4 , R^5 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , Ar^1 and Ar^2 and in ring systems $=\text{CR}^8\text{R}^9$ and $-\text{NR}^8\text{R}^9$ may be substituted independently from each other by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C_1 - C_6 -alkyl, trifluoromethyl, C_3 - C_8 -cycloalkyl, benzyl, phenyl, hydroxy, C_1 - C_6 -hydroxyalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -alkoxy entirely or partially substituted by fluorine, benyloxy, phenoxy, mercapto, C_1 - C_6 -alkylthio, phenylthio, sulfo, carboxy, C_2 - C_7 -carboxyalkyl, C_3 - C_7 -carboxyalkenyl, C_2 - C_7 -alkoxycarbonyl, benyloxycarbonyl, nitro, amino, C_1 - C_6 -aminoalkyl, mono- C_1 - C_6 -alkylamino, di- $(C_1$ - C_6 -alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;

the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other isomers, the tautomers and their acid addition salts including their hydrates and solvates.

48. A method of suppressing autoimmune disease in a human or animal body comprising administering to the human or animal body in need thereof an amount of a pharmaceutical composition effective for suppressing autoimmune disease, wherein the pharmaceutical composition includes compounds of formula (I) or pharmaceutically acceptable salts of formula (I)



(I)

wherein

R¹ is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, trifluoromethyl, C₃-C₈-cycloalkyl, C₁-C₆-hydroxyalkyl, hydroxy, C₁-C₆-alkoxy, C₃-C₈-cycloalkyloxy, benzyloxy, C₁-C₇-alkanoyloxy, C₁-C₆-alkylthio, C₂-C₇-alkoxycarbonyl, aminocarbonyl, C₂-C₇-alkylaminocarbonyl, C₃-C₁₃-

dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^4R^5 , wherein

C1
 R^4 and R^5 are selected independently of each other from the group consisting of hydrogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_3\text{-C}_6\text{-alkenyl}$, $\text{C}_3\text{-C}_6\text{-alkinyl}$, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, $\text{C}_1\text{-C}_6\text{-alkyl}$, trifluoromethyl, hydroxy, $\text{C}_1\text{-C}_6\text{-alkoxy}$ and benzyloxy;

R^3 is selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_3\text{-C}_6\text{-alkenyl}$, $\text{C}_3\text{-C}_6\text{-alkinyl}$, hydroxy, $\text{C}_1\text{-C}_6\text{-alkoxy}$ and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of $\text{C}_1\text{-C}_6\text{-alkylene}$, a substituted $\text{C}_1\text{-C}_6\text{-alkylene}$ which may be substituted one to three-fold by $\text{C}_1\text{-C}_3\text{-alkyl}$, hydroxy, $\text{C}_1\text{-C}_3\text{-alkoxy}$, fluorine, or phenyl,

$\text{C}_2\text{-C}_6\text{-alkylene}$, in which a methylene unit is isosterically replaced by O , S , NR^6 , CO , SO or SO_2 , wherein, with the exception of CO , the isosteric substitution is not adjacent to the amide group and R^6 is selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_3\text{-C}_6\text{-alkenyl}$, $\text{C}_1\text{-C}_6\text{-acyl}$, and $\text{C}_1\text{-C}_6\text{-alkanesulfonyl}$,

1,2-cyclopropylene,

$\text{C}_2\text{-C}_6\text{-alkenylene}$,

~~C1~~
~~a substituted C₂-C₆-alkenylene which is substituted once or twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano or phenyl,~~

~~C₄-C₆-alkadienylene,~~

~~a substituted C₄-C₆-alkadienylene which is substituted once or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,~~

~~1,3,5-hexatrienylene,~~

~~a substituted 1,3,5-hexatrienylene, which is substituted by C₁-C₃-alkyl, fluorine, cyano or phenyl, and~~

~~ethynylene,~~

~~D is selected from the group consisting of~~

~~C₃-C₁₂-alkylene,~~

~~a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

~~C₃-C₁₂-alkenylene,~~

~~a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

~~C₅-C₁₂-alkadienylene,~~

~~a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

C₃-C₁₂-alkynylene,

a substituted C₃-C₁₂-alkynylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkeninylene,

a substituted C₅-C₁₂-alkeninylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and

C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, one to three methylene units in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein R⁷ has the same as R⁶, but is selected independently thereof;

G is selected from the group consisting of G¹, G², G³, G⁴, G⁵, and G⁶ wherein G must contain at least one aromatic ring, wherein

G¹ is $-(CR^9R^{10})_m-R^8$

and

m is 0 or 1,

R⁸ is selected from the group consisting of benzyl, diphenylmethyl, phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic or a hydrogenated ring and either directly or over a methylene group;

C1
R⁹ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, benzyl, phenyl,

anellated bi- and tricyclic aromatic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic ring and either directly or over a methylene group;

R¹⁰ is the same as R⁹, but is selected independently thereof, or is hydroxy;

G² is =CR⁸R⁹

which is bound to D by means of a double bond, wherein R⁸ and R⁹ have the above meaning;

G³ is -X-(CH₂)_n-(CR⁹R¹⁰)_m-R⁸ or -NR⁸R⁹

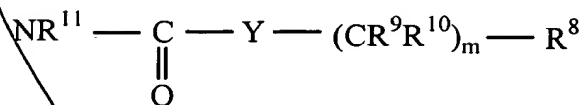
wherein m and the substituents R⁸, R⁹, and R¹⁰ have the above meanings, and

n is 0, 1 or 2

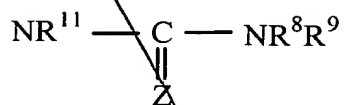
X is NR¹¹, O or S wherein

R¹¹ has the same meanings as R⁴, but is selected independently thereof,

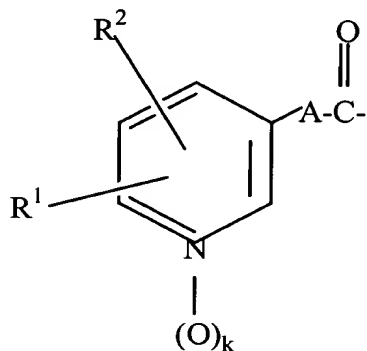
G⁴ is selected from the group consisting of



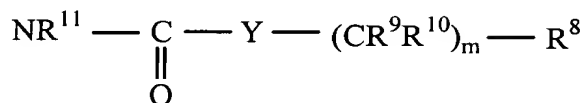
and



wherein structural element D-G cannot contain a total of more than 1 amide grouping, wherein m and the substituents R⁸, R⁹, R¹⁰, R¹¹ and the grouping NR⁸R⁹ can have the above meaning, wherein the residues



and



are not identical, and

Y is selected from the grouping consisting of methylene, ethylene, ethenylene, or represents a bond, and

Z is O or S;

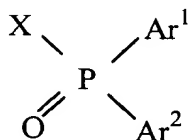
G⁵ is -NR¹¹-SO₂-R¹²

wherein R¹¹ has the above meaning, and

R^{12} is selected from the group consisting of C_1 - C_6 -alkyl and phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least an aromatic ring, wherein the linkage can occur either over an aromatic ring,

G^6 is



wherein X has the above meanings and

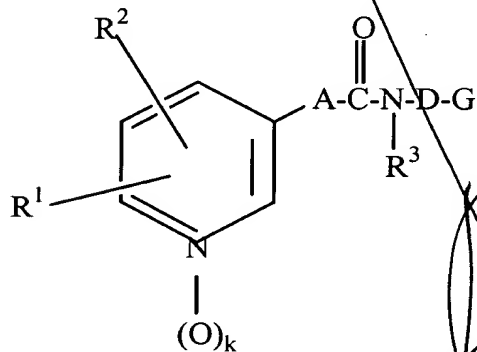
Ar^1 and Ar^2 are selected independently of each other from the group consisting of phenyl, pyridyl and naphthyl;

and wherein aromatic ring systems in the substituents R^1 , R^2 , R^3 , R^4 , R^5 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , Ar^1 and Ar^2 and in ring systems $=\text{CR}^8\text{R}^9$ and $-\text{NR}^8\text{R}^9$ may be substituted independently from each other by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C_1 - C_6 -alkyl, trifluoromethyl, C_3 - C_8 -cycloalkyl, benzyl, phenyl, hydroxy, C_1 - C_6 -hydroxyalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -alkoxy entirely or partially substituted by fluorine, benyloxy, phenoxy, mercapto, C_1 - C_6 -alkylthio, phenylthio, sulfo, carboxy, C_2 - C_7 -carboxyalkyl, C_3 - C_7 -carboxyalkenyl, C_2 - C_7 -alkoxycarbonyl, benyloxycarbonyl, nitro, amino, C_1 - C_6 -aminoalkyl, mono- C_1 - C_6 -alkylamino, di- $(C_1$ - C_6 -alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

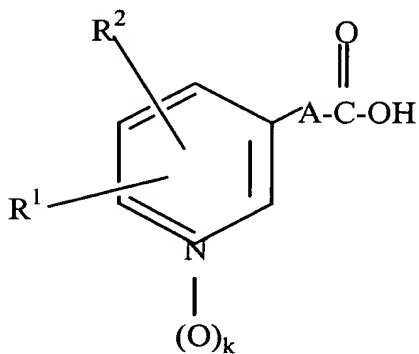
wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;

the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other isomers, the tautomers and their acid addition salts including their hydrates and solvates.

49. A method for the production of a compound of formula (I)

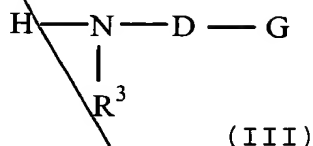


the method comprising reacting a compound of formula (II)



(II)

with compounds of formula (III)



in an inert solvent or polar aprotic solvent or solvent mixture or in the presence of auxiliary base in the form of a carbonate or organic amine at a reaction temperature between -40°C and 180°C,

wherein

R¹ is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, trifluoromethyl, C₃-C₈-cycloalkyl, C₁-C₆-hydroxyalkyl, hydroxy, C₁-C₆-alkoxy, C₃-C₈-cycloalkyloxy, benzyloxy, C₁-C₇-alkanoyloxy, C₁-C₆-alkylthio, C₂-C₇-alkoxycarbonyl, aminocarbonyl, C₂-C₇-alkylaminocarbonyl, C₃-C₁₃-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR⁴R⁵, wherein

R⁴ and R⁵ are selected independently of each other from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, benzyl and phenyl;

R² is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

R³ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

k is 0 or 1,

C1
A is selected from the group consisting of C₁-C₆-alkylene,
a substituted C₁-C₆-alkylene which may be substituted one
to three-fold by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy,
fluorine, or phenyl,

C₂-C₆-alkylene, in which a methylene unit is isosterically
replaced by O, S, NR⁶, CO, SO or SO₂, wherein, with the
exception of CO, the isosteric substitution is not
adjacent to the amide group and R⁶ is selected from the
group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl,
C₁-C₆-acyl, and C₁-C₆-alkanesulfonyl,

1,2-cyclopropylene,

C₂-C₆-alkenylene,

a substituted C₂-C₆-alkenylene which is substituted once or
twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano
or phenyl,

C₄-C₆-alkadienylene,

a substituted C₄-C₆-alkadienylene which is substituted once
or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene, which is substituted
by C₁-C₃-alkyl, fluorine, cyano or phenyl, and

ethynylene,

D is selected from the group consisting of

C₃-C₁₂-alkylene,

a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkenylene,

a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkadienylene,

a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkynylene,

a substituted C₃-C₁₂-alkynylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkeninylenylene,

a substituted C₅-C₁₂-alkeninylenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and

C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, one to three methylene units in the C₃-C₁₂-

alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein R⁷ has the same as R⁶, but is selected independently thereof;

C¹
G is selected from the group consisting of G¹, G², G³, G⁴, G⁵, and G⁶ wherein G must contain at least one aromatic ring, wherein

G¹ is $-(CR^9R^{10})_m-R^8$

and

m is 0 or 1,

R⁸ is selected from the group consisting of benzyl, diphenylmethyl, phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic or a hydrogenated ring and either directly or over a methylene group;

R⁹ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkynyl, benzyl, phenyl,

anellated bi- and tricyclic aromatic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic ring and either directly or over a methylene group;

R^{10} is the same as R^9 , but is selected independently thereof, or is hydroxy;

G^2 is $=CR^8R^9$

which is bound to D by means of a double bond, wherein R^8 and R^9 have the above meaning;

G^3 is $-X-(CH_2)_n-(CR^9R^{10})_m-R^8$ or $-NR^8R^9$

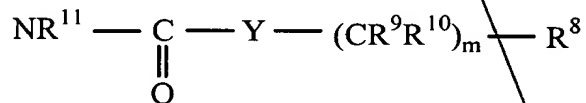
wherein m and the substituents R^8 , R^9 , and R^{10} have the above meanings, and

n is 0, 1 or 2

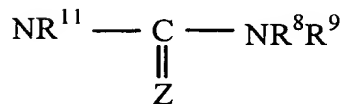
X is NR^{11} , O or S wherein

R^{11} has the same meanings as R^4 , but is selected independently thereof.

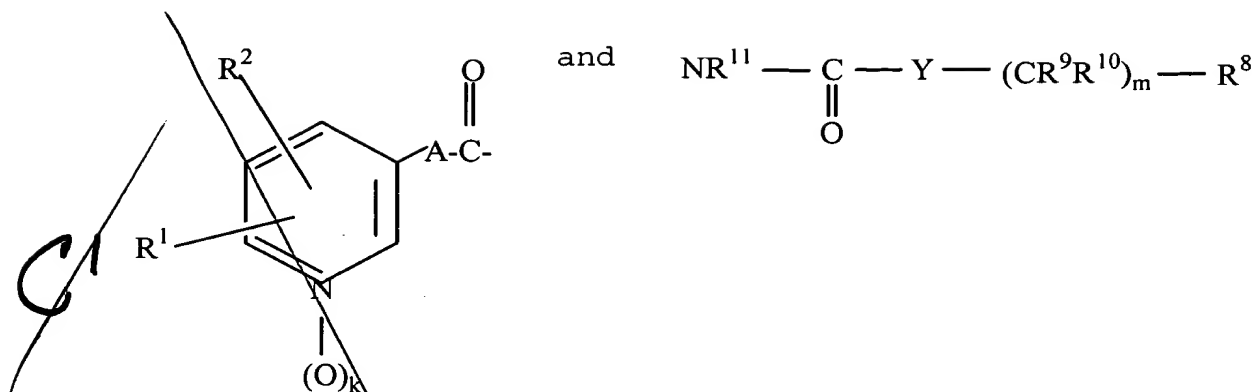
G^4 is selected from the group consisting of



and



wherein structural element D-G cannot contain a total of more than 1 amide grouping, wherein m and the substituents R^8 , R^9 , R^{10} , R^{11} and the grouping NR^8R^9 can have the above meaning, wherein the residues



are not identical, and

Y is selected from the grouping consisting of methylene, ethylene, ethenylene, or represents a bond, and

Z is O or S;

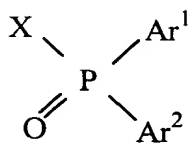
G⁵ is $-\text{NR}^{11}-\text{SO}_2-\text{R}^{12}$

wherein R¹¹ has the above meaning, and

R¹² is selected from the group consisting of C₁-C₆-alkyl and phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least an aromatic ring, wherein the linkage can occur either over an aromatic ring,

G⁶ is



wherein X has the above meanings and

Ar¹ and Ar² are selected independently of each other from the group consisting of phenyl, pyridyl and naphthyl;

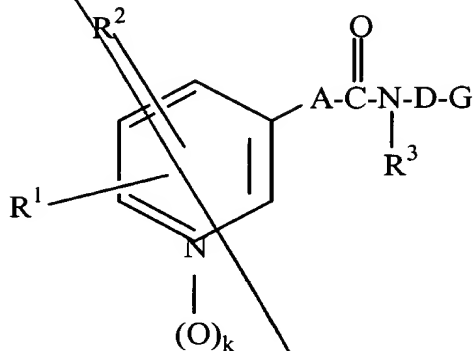
and wherein aromatic ring systems in the substituents R¹, R², R³, R⁴, R⁵, R⁸, R⁹, R¹⁰, R¹¹, R¹², Ar¹ and Ar² and in ring systems =CR⁸R⁹ and -NR⁸R⁹ may be substituted independently from each other by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C₁-C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;

the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other isomers, the tautomers and their acid addition salts including their hydrates and solvates.

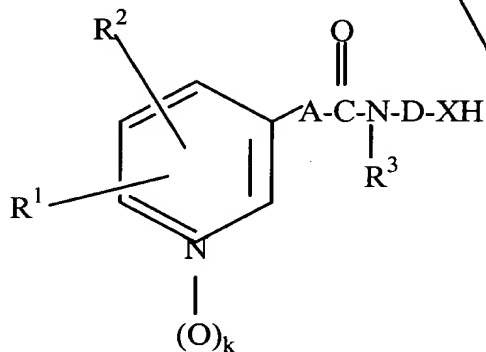
50. A method for the production of a compound of formula

(I)



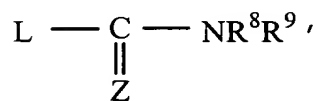
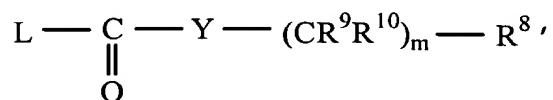
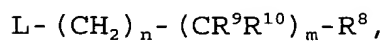
(I)

the method comprising reacting a compound of formula (IV)

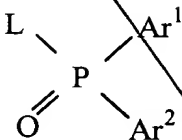


(IV)

with alkylation or arylation agents or carboxylic acid, carbamic acid, thiocarbamic acid, sulfonic acid or phosphinic acid derivatives of the following compounds



~~L-SO₂-R¹², and~~



wherein L represents a nucleofuge, X = NR¹¹ and R¹ is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, trifluoromethyl, C₃-C₈-cycloalkyl, C₁-C₆-hydroxyalkyl, hydroxy, C₁-C₆-alkoxy, C₃-C₈-cycloalkyloxy, benzyloxy, C₁-C₇-alkanoyloxy, C₁-C₆-alkylthio, C₂-C₇-alkoxycarbonyl, aminocarbonyl, C₂-C₇-alkylaminocarbonyl, C₃-C₁₃-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR⁴R⁵, wherein

R⁴ and R⁵ are selected independently of each other from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, benzyl and phenyl;

R² is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

R³ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C₁-C₆-alkylene,

C¹
a substituted C₁-C₆-alkylene which may be substituted one to three-fold by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, or phenyl,

C₂-C₆-alkylene, in which a methylene unit is isosterically replaced by O, S, NR⁶, CO, SO or SO₂, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R⁶ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₁-C₆-acyl, and C₁-C₆-alkanesulfonyl,

1,2-cyclopropylene,

C₂-C₆-alkenylene,

a substituted C₂-C₆-alkenylene which is substituted once or twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano or phenyl,

C₄-C₆-alkadienylene,

a substituted C₄-C₆-alkadienylene which is substituted once or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene, which is substituted by C₁-C₃-alkyl, fluorine, cyano or phenyl, and

ethynylene,

D is selected from the group consisting of

C₁
~~C₃-C₁₂-alkylene,~~

~~a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

~~C₃-C₁₂-alkenylene,~~

~~a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

~~C₅-C₁₂-alkadienylene,~~

~~a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

~~C₃-C₁₂-alkynylene,~~

~~a substituted C₃-C₁₂-alkynylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

~~C₅-C₁₂-alkeninylenylene,~~

~~a substituted C₅-C₁₂-alkeninylenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and~~

~~C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, one to three methylene units in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein~~

e1
~~R⁷ has the same as R⁶, but is selected independently thereof;~~

~~G is selected from the group consisting of G³, G⁴, G⁵ and G⁶ wherein G must contain at least one aromatic ring, wherein~~

~~G³ is -X-(CH₂)_n-(CR⁹R¹⁰)_m-R⁸~~

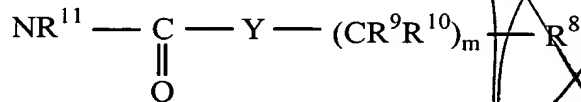
~~wherein m and the substituents R⁸, R⁹, and R¹⁰ have the above meanings, and~~

~~n is 0, 1 or 2~~

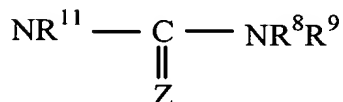
~~X is NR¹¹, O or S wherein~~

~~R¹¹ has the same meanings as R⁴, but is selected independently thereof,~~

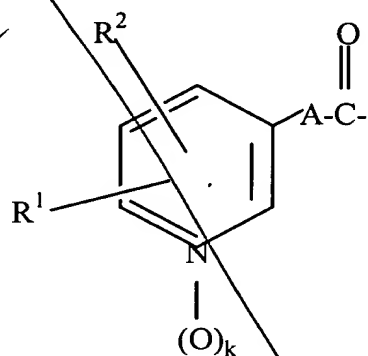
~~G⁴ is selected from the group consisting of~~



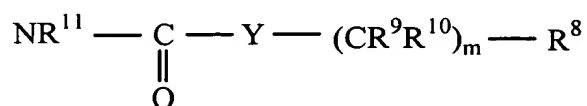
and



wherein structural element D-G cannot contain a total of more than 1 amide grouping, wherein m and the substituents R⁸, R⁹, R¹⁰, R¹¹ and the grouping NR⁸R⁹ can have the above meaning, wherein the residues



and



are not identical, and

Y is selected from the grouping consisting of methylene, ethylene, ethenylene, or represents a bond, and

Z is O or S;

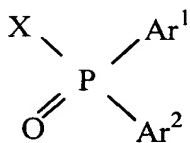
G⁵ is $-\text{NR}^{11}-\text{SO}_2-\text{R}^{12}$

wherein R¹¹ has the above meaning, and

R¹² is selected from the group consisting of C₁-C₆-alkyl and phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least an aromatic ring, wherein the linkage can occur either over an aromatic ring,

G⁶ is



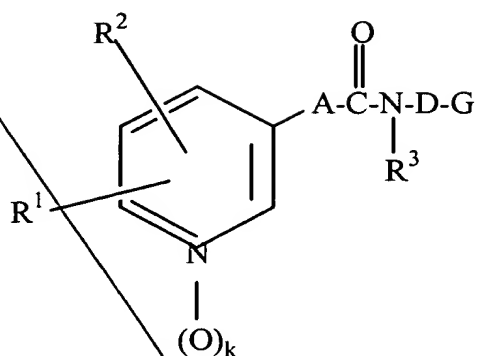
wherein X has the above meanings and

C1
Ar¹ and Ar² are selected independently of each other from the group consisting of phenyl, pyridyl and naphthyl; and wherein aromatic ring systems in the substituents R¹, R², R³, R⁴, R⁵, R⁸, R⁹, R¹⁰, R¹¹, R¹², Ar¹ and Ar² and in ring systems =CR⁸R⁹ and -NR⁸R⁹ may be substituted independently from each other by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C₁-C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;

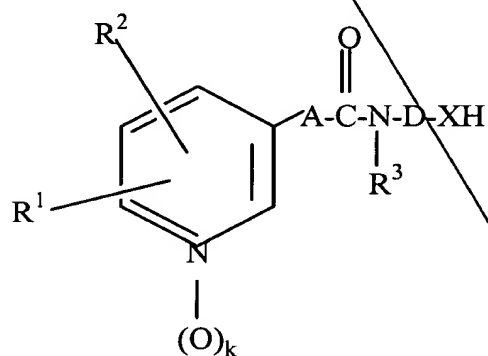
the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other isomers, the tautomers and their acid addition salts including their hydrates and solvates.

51. A method for the production of a compound of formula
(I)



(I)

the method comprising reacting a compound of formula (IV)



(IV)

in an inert solvent with alkylation or arylation agents of $L-(CH_2)_n-(CR^9R^{10})_m-R^8$ at a temperature of between 0°C and 180°C , wherein L is a leaving group and R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1 - C_6 -alkyl, C_3 - C_6 -alkenyl, C_2 - C_6 -alkinyl, trifluoromethyl, C_3 - C_8 -cycloalkyl, C_1 - C_6 -hydroxyalkyl, hydroxy, C_1 - C_6 -alkoxy, C_3 - C_8 -cycloalkyloxy, benzyloxy, C_1 - C_7 -alkanoyloxy, C_1 - C_6 -alkylthio, C_2 - C_7 -alkoxycarbonyl, aminocarbonyl, C_2 - C_7 -alkylaminocarbonyl, C_3 - C_{13} -dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^4R^5 , wherein

01
R⁴ and R⁵ are selected independently of each other from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, benzyl and phenyl;

R² is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

R³ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C₁-C₆-alkylene,

a substituted C₁-C₆-alkylene which may be substituted one to three-fold by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, or phenyl,

C₂-C₆-alkylene, in which a methylene unit is isosterically replaced by O, S, NR⁶, CO, SO or SO₂, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R⁶ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₁-C₆-acyl, and C₁-C₆-alkanesulfonyl,

1,2-cyclopropylene,

C₂-C₆-alkenylene,

C/ a substituted C₂-C₆-alkenylene which is substituted once or twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano or phenyl,

C₄-C₆-alkadienylene,

a substituted C₄-C₆-alkadienylene which is substituted once or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene, which is substituted by C₁-C₃-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of

C₃-C₁₂-alkylene,

a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkenylene,

a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkadienylene,

a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkynylene,

a substituted C₃-C₁₂-alkynylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkeninylene,

a substituted C₅-C₁₂-alkeninylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and

C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, one to three methylene units in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein R⁷ has the same as R⁶, but is selected independently thereof;

G is $-(CR^9R^{10})_m-R^8$

and

m is 0 or 1,

R⁸ is selected from the group consisting of benzyl, diphenylmethyl, phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage

C/ can occur over an aromatic or a hydrogenated ring and either directly or over a methylene group;

R⁹ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, benzyl, phenyl,

anellated bi- and tricyclic aromatic ring systems with 8 to 18 ring atoms, and at least one aromatic ring, wherein the linkage can occur over an aromatic ring and either directly or over a methylene group;

R¹⁰ is the same as R⁹, but is selected independently thereof, or is hydroxy;

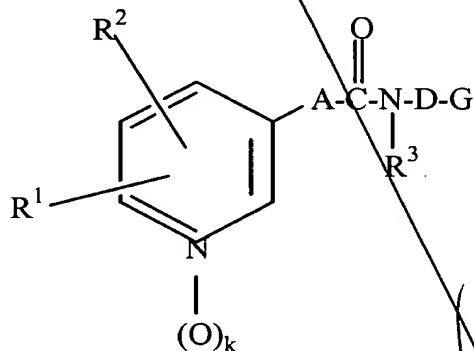
Ar¹ and Ar² are selected independently of each other from the group consisting of phenyl, pyridyl and naphthyl; and wherein aromatic ring systems in the substituents R¹, R², R³, R⁴, R⁵, R⁸, R⁹, R¹⁰, R¹¹, R¹², Ar¹ and Ar² and in ring systems =CR⁸R⁹ and -NR⁸R⁹ may be substituted independently from each other by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C₁-C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected

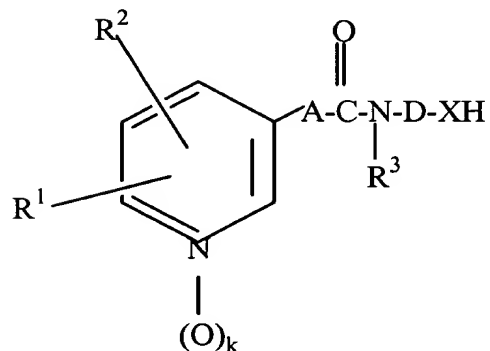
from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;

the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other isomers, the tautomers and their acid addition salts including their hydrates and solvates.

52. A method for the production of a compound of formula (I)

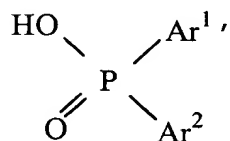
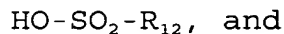
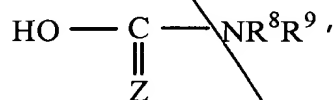
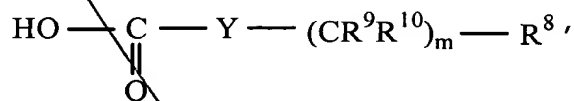


the method comprising reacting a compound of formula (IV)



(IV)

with alkylation or arylation agents or carboxylic acid, carbamic acid, thiocarbamic acid, sulfonic acid or phosphinic acid derivatives of the following compounds



wherein

R¹ is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, trifluoromethyl, C₃-C₈-cycloalkyl, C₁-C₆-hydroxyalkyl, hydroxy, C₁-C₆-alkoxy, C₃-C₈-cycloalkyloxy, benzyloxy, C₁-C₇-alkanoyloxy, C₁-C₆-alkylthio, C₂-C₇-alkoxycarbonyl, aminocarbonyl, C₂-C₇-alkylaminocarbonyl, C₃-C₁₃-dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR⁴R⁵, wherein

R⁴ and R⁵ are selected independently of each other from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, benzyl and phenyl;

C¹
R² is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

R³ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C₁-C₆-alkylene,

a substituted C₁-C₆-alkylene which may be substituted one to three-fold by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, or phenyl,

C₂-C₆-alkylene, in which a methylene unit is isosterically replaced by O, S, NR⁶, CO, SO or SO₂, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R⁶ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₁-C₆-acyl, and C₁-C₆-alkanesulfonyl,

1,2-cyclopropylene,

C₂-C₆-alkenylene,

a substituted C₂-C₆-alkenylene which is substituted once or twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano or phenyl,

C₄-C₆-alkadienylene,

21 a substituted C₄-C₆-alkadienylene which is substituted once or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene, which is substituted by C₁-C₃-alkyl, fluorine, cyano or phenyl, and

ethinylene,

D is selected from the group consisting of

C₃-C₁₂-alkylene,

a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkenylene,

a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkadienylene,

a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkinylene,

a substituted C₃-C₁₂-alkinylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

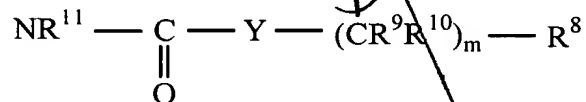
C₅-C₁₂-alkeninylene,

a substituted C₅-C₁₂-alkeninylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and

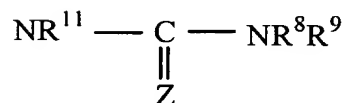
C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkinylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkinylene, one to three methylene units in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkinylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein R⁷ has the same as R⁶, but is selected independently thereof;

G is selected from the group consisting of G⁴, G⁵, and G⁶ wherein G must contain at least one aromatic ring, wherein

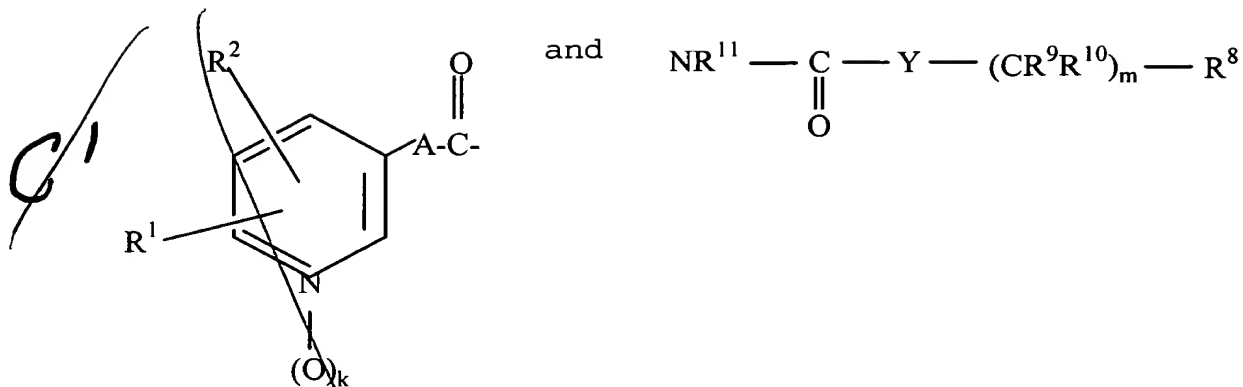
G⁴ is selected from the group consisting of



and



wherein structural element D-G cannot contain a total of more than 1 amide grouping, wherein m and the substituents R⁸, R⁹, R¹⁰, R¹¹ and the grouping NR⁸R⁹ can have the above meaning, wherein the residues



are not identical, and

Y is selected from the grouping consisting of methylene, ethylene, ethenylene, or represents a bond, and

Z is O or S;

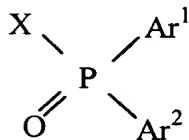
G⁵ is $-\text{NR}^{11}-\text{SO}_2-\text{R}^{12}$

wherein R¹¹ has the above meaning, and

R¹² is selected from the group consisting of C₁-C₆-alkyl and phenyl,

anellated bi- and tricyclic aromatic or partially hydrogenated carbocyclic ring systems with 8 to 18 ring atoms, and at least an aromatic ring, wherein the linkage can occur either over an aromatic ring,

G⁶ is



C1
wherein X has the above meanings and

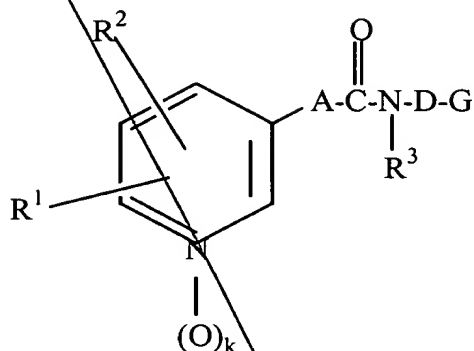
Ar¹ and Ar² are selected independently of each other from the group consisting of phenyl, pyridyl and naphthyl; and wherein aromatic ring systems in the substituents R¹, R², R³, R⁴, R⁵, R⁸, R⁹, R¹⁰, R¹¹, R¹², Ar¹ and Ar² and in ring systems =CR⁸R⁹ and -NR⁸R⁹ may be substituted independently from each other by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C₁-C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;

the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other isomers, the tautomers and their acid addition salts including their hydrates and solvates.

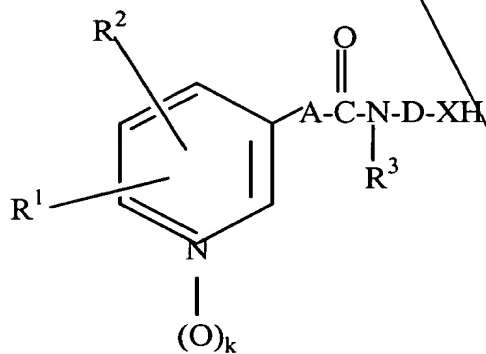
53. A method for the production of a compound of formula

(I)



(I)

the method comprising reacting a compound of formula (IV)



(IV)

are reacted with a carbonyl group transmitter to form an intermediate, wherein the carbonyl group transmitter is bis-trichloromethyl carbonate or carbonyldiimidazole,

wherein

R¹ is selected from the group consisting of hydrogen, halogen, cyano, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₂-C₆-alkinyl, trifluoromethyl, C₃-C₈-cycloalkyl, C₁-C₆-hydroxyalkyl, hydroxy, C₁-C₆-alkoxy, C₃-C₈-cycloalkyloxy, benzyloxy, C₁-C₇-alkanoyloxy, C₁-C₆-alkylthio, C₂-C₇-alkoxycarbonyl, aminocarbonyl, C₂-C₇-alkylaminocarbonyl, C₃-C₁₃-

01
dialkylaminocarbonyl, carboxy, phenyl, phenoxy,
phenylthio, pyridyloxy, pyridylthio, and NR^4R^5 , wherein

R^4 and R^5 are selected independently of each other from the group consisting of hydrogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_3\text{-C}_6\text{-alkenyl}$, $\text{C}_3\text{-C}_6\text{-alkinyl}$, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, $\text{C}_1\text{-C}_6\text{-alkyl}$, trifluoromethyl, hydroxy, $\text{C}_1\text{-C}_6\text{-alkoxy}$ and benzyloxy;

R^3 is selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_3\text{-C}_6\text{-alkenyl}$, $\text{C}_3\text{-C}_6\text{-alkinyl}$, hydroxy, $\text{C}_1\text{-C}_6\text{-alkoxy}$ and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of $\text{C}_1\text{-C}_6\text{-alkylene}$, a substituted $\text{C}_1\text{-C}_6\text{-alkylene}$ which may be substituted one to three-fold by $\text{C}_1\text{-C}_3\text{-alkyl}$, hydroxy, $\text{C}_1\text{-C}_3\text{-alkoxy}$, fluorine, or phenyl,

$\text{C}_2\text{-C}_6\text{-alkylene}$, in which a methylene unit is isosterically replaced by O, S, NR^6 , CO, SO or SO_2 , wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R^6 is selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_6\text{-alkyl}$, $\text{C}_3\text{-C}_6\text{-alkenyl}$, $\text{C}_1\text{-C}_6\text{-acyl}$, and $\text{C}_1\text{-C}_6\text{-alkanesulfonyl}$,

1,2-cyclopropylene,

$\text{C}_2\text{-C}_6\text{-alkenylene}$,

01
a substituted C₂-C₆-alkenylene which is substituted once or twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano or phenyl,

C₄-C₆-alkadienylene,

a substituted C₄-C₆-alkadienylene which is substituted once or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,

1,3,5-hexatrienylene,

a substituted 1,3,5-hexatrienylene, which is substituted by C₁-C₃-alkyl, fluorine, cyano or phenyl, and

ethynylene,

D is selected from the group consisting of

C₃-C₁₂-alkylene,

a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkenylene,

a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkadienylene,

a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

Q1
~~C₃-C₁₂-alkynylene,~~

~~a substituted C₃-C₁₂-alkynylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,~~

~~C₅-C₁₂-alkeninylene,~~

~~a substituted C₅-C₁₂-alkeninylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and~~

~~C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, one to three methylene units in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein R⁷ has the same as R⁶, but is selected independently thereof;~~

~~G is~~
$$\text{NR}^{11} - \underset{\text{Z}}{\underset{\parallel}{\text{C}}} - \text{NR}^8\text{R}^9$$

~~wherein structural element D-G cannot contain a total of more than 1 amide grouping, wherein m and the substituents R⁸, R⁹, R¹⁰, R¹¹ and the grouping NR⁸R⁹ can have the above meaning,~~

~~Z is O or S;~~

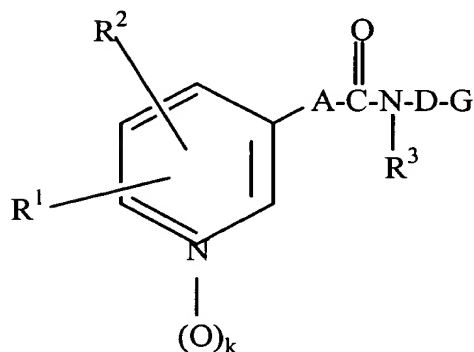
~~and wherein aromatic ring systems in the substituents R¹, R², R³, R⁴, R⁵, R⁸, R⁹, R¹⁰ and R¹¹ and in ring systems =CR⁸R⁹ and -NR⁸R⁹ may be substituted independently from each other~~

by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benzyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, nitro, amino, C₁-C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and

wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;

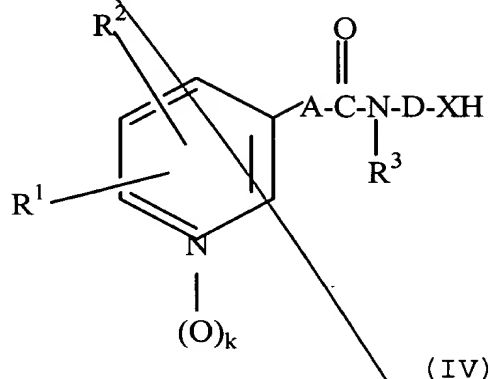
the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other isomers, the tautomers and their acid addition salts including their hydrates and solvates.

54. A method for the production of a compound of formula (I)



(I)

the method comprising reacting a compound of formula (IV)



(IV)

with an isocyanate or isothiocyanate having formula $Z=C=N-R^8$ at a temperature of -20°C to 150°C ,

wherein

R^1 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6 -alkyl, C_3-C_6 -alkenyl, C_2-C_6 -alkinyl, trifluoromethyl, C_3-C_8 -cycloalkyl, C_1-C_6 -hydroxyalkyl, hydroxy, C_1-C_6 -alkoxy, C_3-C_8 -cycloalkyloxy, benzyloxy, C_1-C_7 -alkanoyloxy, C_1-C_6 -alkylthio, C_6-C_7 -alkoxycarbonyl, aminocarbonyl, C_2-C_7 -alkylaminocarbonyl, C_3-C_{13} -dialkylaminocarbonyl, carboxy, phenyl, phenoxy, phenylthio, pyridyloxy, pyridylthio, and NR^4R^5 , wherein

R^4 and R^5 are selected independently of each other from the group consisting of hydrogen, C_1-C_6 -alkyl, C_3-C_6 -alkenyl, C_3-C_6 -alkinyl, benzyl and phenyl;

R^2 is selected from the group consisting of hydrogen, halogen, cyano, C_1-C_6 -alkyl, trifluoromethyl, hydroxy, C_1-C_6 -alkoxy and benzyloxy;

Q1 R³ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkinyl, hydroxy, C₁-C₆-alkoxy and benzyloxy;

k is 0 or 1,

A is selected from the group consisting of C₁-C₆-alkylene,

a substituted C₁-C₆-alkylene which may be substituted one to three-fold by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, or phenyl,

C₂-C₆-alkylene, in which a methylene unit is isosterically replaced by O, S, NR⁶, CO, SO or SO₂, wherein, with the exception of CO, the isosteric substitution is not adjacent to the amide group and R⁶ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₁-C₆-acyl, and C₁-C₆-alkanesulfonyl,

1,2-cyclopropylene,

C₂-C₆-alkenylene,

a substituted C₂-C₆-alkenylene which is substituted once or twice by C₁-C₃-alkyl, hydroxy, C₁-C₃-alkoxy, fluorine, cyano or phenyl,

C₄-C₆-alkadienylene,

a substituted C₄-C₆-alkadienylene which is substituted once or twice by C₁-C₃-alkyl, fluorine, cyano or phenyl,

1,3,5-hexatrienylene,

C1
a substituted 1,3,5-hexatrienylene, which is substituted by C₁-C₃-alkyl, fluorine, cyano or phenyl, and

ethynylene,

D is selected from the group consisting of

C₃-C₁₂-alkylene,

a substituted C₃-C₁₂-alkylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkenylene,

a substituted C₃-C₁₂-alkenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkadienylene,

a substituted C₅-C₁₂-alkadienylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₃-C₁₂-alkynylene,

a substituted C₃-C₁₂-alkynylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl,

C₅-C₁₂-alkeninylenylene,

a substituted C₅-C₁₂-alkeninylenylene which is substituted once or twice by C₁-C₆-alkyl, hydroxy, C₁-C₆-alkoxy or phenyl, and

C/ ~~C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, wherein, with the exception of the (G)-terminal methylene group in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene, one to three methylene units in the C₃-C₁₂-alkylene, C₃-C₁₂-alkenylene or C₃-C₁₂-alkynylene are isosterically replaced by O, S, NR⁷, CO, SO or SO₂, wherein R⁷ has the same as R⁶, but is selected independently thereof;~~

G is $\text{NR}^{11} - \underset{\text{Z}}{\underset{\parallel}{\text{C}}} - \text{NR}^8\text{R}^9$

wherein structural element D-G cannot contain a total of more than 1 amide grouping, wherein m and the substituents R⁸, R⁹, R¹⁰, R¹¹ and the grouping NR⁸R⁹ can have the above meaning,

Z is O or S;

Ar¹ and Ar² are selected independently of each other from the group consisting of phenyl, pyridyl and naphthyl; and wherein aromatic ring systems in the substituents R¹, R², R³, R⁴, R⁵, R⁸, R⁹, R¹⁰ and R¹¹ and in ring systems =CR⁸R⁹ and -NR⁸R⁹ may be substituted independently from each other by one to three of the same or different groups independently selected from the group consisting of halogen, cyano, C₁-C₆-alkyl, trifluoromethyl, C₃-C₈-cycloalkyl, benzyl, phenyl, hydroxy, C₁-C₆-hydroxyalkyl, C₁-C₆-alkoxy, C₁-C₆-alkoxy entirely or partially substituted by fluorine, benyloxy, phenoxy, mercapto, C₁-C₆-alkylthio, phenylthio, sulfo, carboxy, C₂-C₇-carboxyalkyl, C₃-C₇-carboxyalkenyl, C₂-C₇-alkoxycarbonyl, benyloxycarbonyl, nitro, amino, C₁-C₆-aminoalkyl, mono-C₁-C₆-alkylamino, di-

Q1 ~~(C₁-C₆-alkyl)amino and, for two adjacent residues on the aromatic ring, methylenedioxy and~~

~~wherein alkyl residues in the Group G can be substituted by one or two of the same or different groups selected from the group consisting of hydroxy, carboxy, C₂-C₇-alkoxycarbonyl, benzyloxycarbonyl, amino, mono-C₁-C₆-alkylamino and di-(C₁-C₆-alkyl)amino;~~

~~the cis- and trans-isomers, E- and Z-isomers including the corresponding enantiomers, diastereomers and other isomers, the tautomers and their acid addition salts including their hydrates and solvates.~~
